

ABSTRACT

A clutching mechanism includes at least one elastic layer with a deformable area in which at least two micro/nano pins are erected. A driving mechanism is utilized to deform the deformable area in a way that those micro/nano pins move closer to each other. The distance between the tips of those micro/nano pins, namely, the clutching points, is thereby reduced, so as to grasp a micro/nano object. Further, to fit in with the shape of a micro/nano object, those micro/nano pins can be made into various shapes. It is a further effect that, when the driving mechanism is a vacuum pump or a pneumatic pump, the clutching force exerted on a micro/nano object can be adjusted by varying the pressure difference produced by the pump.